ABSTRACT

A method for automated location dependent probabilistic tropical cyclone forecast. A plurality of new data records representative of alternative tracks are generated based on historical tracks by a first MonteCarlo-module. Points of the new data records are generated from points along the historical track by a dependent sampling process, whereas an intensity climatology is generated, based upon intensity data associated with at least some of the plurality of points along the historical tracks located within a certain grid cell. New intensity data are generated by a second MonteCarlo-module, from the intensity data associated with at least some of the plurality of points along the historical tracks by a MonteCarlo sampling process. A distribution of the historical tracks is reproduced by a filtering module within the new or accumulated data records, and a wind field of each data record is generated and a probability is assigned by an interpolation-module to each point in the grid, giving the probability of occurrence of a specific wind strength at a given geographical location and time.